Claims

What is claimed is:

5   1.   A state machine for an application manager that manages execution of
an application in a digital television receiver environment, said state machine
comprising:
        a loaded state in which the application has been loaded;
        a paused state in which the application is paused, the application being
10   initialized to transition from said loaded state to said paused state;
        an active state in which the application is executing, the application
being started to transition from said paused state to said active state; and
        a destroyed state in which the application is destroyed, the application
being terminated to transition from either said active state or said paused state
15   to said destroyed state.

2.   A state machine as recited in claim 1, wherein the application can
transition from said loaded state to said destroyed state when the application is
20   to be terminated while in said loaded state.

3.   A state machine as recited in claim 2, wherein either of the application
manager or the application can initiate the transistion to said destroyed state.

25   4.   A state machine as recited in claim 1, wherein the application can
transition from said active state to said paused state when the application is to
be paused.

5.   A state machine as recited in claim 4, wherein either of the application
30   manager or the application can initiate the transistion from said active state to
said paused state.

6.   A state machine as recited in claim 1, wherein only the application
manager initiates the transition from said paused state to said active state by
35   starting the application.

7.   A state machine as recited in claim 1, wherein the states of said state machine together form an application lifecycle.

8.   A computer program product for managing execution of an application according to an application lifecycle, the computer program product comprising:

     a computer-readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

     instructions for loading the application such that the application enters a loaded state;

     instructions for initializing the application when the application is in the loaded state such that the application enters a paused state;

     instructions for starting execution of the application when the application is in the paused state such that the application enters an active state; and

     instructions for terminating the execution of the application when the application is in the loaded state, the paused state, or the active state such that the application enters a destroyed state.

9.   The computer program product as recited in claim 8, further comprising:

     instructions for pausing the application when the application is in the active state such that the application enters the paused state.

10.   The computer program product as recited in claim 8, wherein the instructions for starting execution of the application when the application is in the paused state cannot be called by the application.

11.   The computer program product as recited in claim 8, wherein the instructions for starting execution of the application when the application is in the paused state can only be called by a process that is external to the application.

12. The computer program product as recited in claim 9, wherein the instructions for pausing the execution of the application when the application is in the active state can be called by the application or a process external to the application.

13. The computer program product as recited in claim 8, wherein the instructions for terminating the application can be executed by the application or a process external to the application.

14. A computer program product for managing execution of an application according to an application lifecycle, the computer program product comprising:

a computer-readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

instructions for initializing an application such that the application enters a paused state;

instructions for starting execution of the application such that the application enters an active state;

instructions for pausing the execution of the application such that the application enters the paused state; and

instructions for terminating the application such that the application enters a destroyed state.

15. A computer program product for managing execution of an application according to an application lifecycle, the computer program product comprising:

a computer-readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

instructions for starting execution of the application such that the application enters an active state;

instructions for pausing the execution of the application such that the application enters the paused state;

instructions for conditionally terminating the execution of the application such that the application enters a destroyed state when a predetermined condition is satisfied; and

instructions for unconditionally terminating the execution of the application such that the application enters the destroyed state when the predetermined condition is not satisfied.

16. The computer program product as recited in claim 15, wherein the predetermined condition is a signal received from the application.

17. The computer program product as recited in claim 15, wherein the predetermined condition is an absence of a signal received from the application within a specified period of time.

18. The computer program product as recited in claim 15, further comprising:

instructions for ignoring a state change exception raised by the application when the predetermined condition is not satisfied, the state change exception indicating that the application does not want to terminate.

19. A computer program product for managing execution of an application according to an application lifecycle, the computer program product comprising:

a computer-readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

instructions for starting execution of the application such that the application enters an active state;

instructions for pausing the execution of the application such that the application enters the paused state;

instructions for terminating the application such that the application enters a destroyed state; and

an interface including a set of instructions that enable a process other than the application to initiate execution of the instructions for starting execution of the application, the instructions for pausing the execution of the application, and the instructions for terminating the application.

20.   The computer program product as recited in claim 19, wherein the interface comprises a stub adapted for calling the instructions for terminating the application, the stub being capable of accepting a parameter indicating that termination of the application is unconditional when the parameter is in a first state and conditional when the parameter is in a second state.

21.   A computer program product for managing execution of an application according to an application lifecycle, the computer program product comprising:

    a computer-readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

        instructions for communicating that the application has decided to terminate and has entered a destroyed state from a loaded state, a paused state, or an active state; and

        instructions for communicating that the application has decided to pause its execution and has entered the paused state from the active state.

22.   The computer program product as recited in claim 21, further comprising:

    instructions for communicating that the application wishes to resume execution and enter the active state from the paused state.

23.   The computer program product as recited in claim 21, further comprising:

    instructions for obtaining information associated with a runtime environment of the application.

24.   The computer program product as recited in claim 21, further comprising:

an interface including a set of instructions that enable the application to initiate execution of the instructions for communicating that the application has decided to terminate and the instructions for communicating that the application has decided to pause its execution.

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25.   The computer program product as recited in claim 22, further comprising:

an interface including a set of instructions that enable the application to initiate execution of the instructions for communicating that the application has decided to terminate, the instructions for communicating that the application has decided to pause its execution, and the instructions for communicating that the application wishes to resume execution and enter the active state from the paused state.

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26.   A computer program product for managing execution of an application according to an application lifecycle, the computer program product comprising:

a computer-readable medium storing computer-readable instructions thereon, the computer-readable instructions including:

instructions for starting execution of the application such that the application enters an active state, wherein the instructions for starting execution of the application cannot be called by the application;

instructions for pausing the execution of the application such that the application enters a paused state; and

instructions for communicating that the application wishes to resume execution and enter the active state from the paused state.

30   27.   The computer program product as recited in claim 26, further comprising:

instructions for communicating that the application has decided to pause its execution and has entered the paused state from the active state.

35   28.   The computer program product as recited in claim 26, further comprising:

instructions for terminating the application such that the application enters a destroyed state.

29.   The computer program product as recited in claim 28, further comprising:

instructions for communicating that the application has decided to terminate and has entered the destroyed state.